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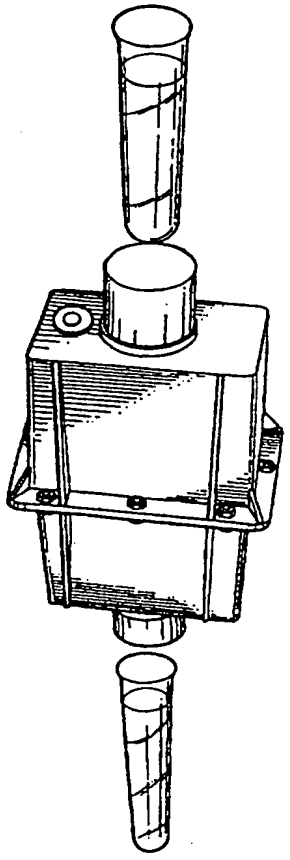
(54) Title: METHOD OF IMPROVING SKIN CONDITION

(57) Abstract

A method of improving skin condition by administering to the skin a physiologically acceptable substrate that is exposed to a magnetic vector potential field and that contains information energy.



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METHOD OF IMPROVING SKIN CONDITION

FIELD OF THE INVENTION

The present invention relates to the field of homeopathic treatments, and more particularly, to the use of a physiologically acceptable substrate containing information energy for cosmetic and medical applications.

BACKGROUND OF THE INVENTION

Homeopathy has been explained as copying information, e.g., a pattern or a combination of oscillations of different frequencies, onto a substrate from the information or pattern existing in the molecular structure of natural substances, e.g., herbs, antibodies, or pollen. The substrate with the copied information or pattern incorporated therein can then be used to effect a desired response. For example, in homeopathic medicine, the desired response might be the reduction of allergy symptoms in hay fever sufferers.

U. S. Patent 5,138,172 of K. E. Werner Kropp teaches a method for applying information energy to a substrate such as saline solution or oil by exposing the substrate to a magnetic vector potential field. U. S. Patent 5,012,110 of K. E. Werner Kropp teaches a process for the manufacture of a synthetic homeopathic substrate by placing the substrate between opposing sets of magnets.

French patent application, Publication No. 2,634,381, published January 26, 1990 and WO 91.10450, published July 25, 1991 of J. J. C. Morez teach a method of producing larger quantities of homeopathic medicine by transferring to a large

mass of material such as water the electromagnetic information of a homeopathic remedy by way of a transmitter-receiver.

An object of the present invention is to provide a novel method of using physiologically acceptable substrates containing information energy for use in cosmetics, e.g.. for improving skin condition.

Another object of the present invention is to provide a novel method of using physiologically acceptable substrates containing information energy for use in homeopathic medicine.

SUMMARY OF THE INVENTION

The invention is related to the use of substrates such as aqueous salt solutions, massage oils or other pharmaceutically acceptable carriers that have been exposed to information energy such as oscillation patterns modeled after those found in natural herbs. In general, the substrate can be in the gaseous, liquid, solid or liquid crystalline phase. The aqueous salt solutions may contain sodium chloride and magnesium chloride, as well as dissolved iron and calcium ions.

The substrates that contain information energy can be used to improve skin condition by topically administering the substrates to skin. By skin condition, we mean, without limitations, dry skin, zerosis, ichthyosis, dandruff, brownish spots, keratoses, melasma, lentigines, age spots, liver spots, pigmented spots, wrinkles, blemishes, skin lines, oily skin, acne, warts, eczema, pruritic skin,

psoriasis, inflammatory dermatoses, disturbed *keratinization*, skin changes associated with aging, nail or skin requiring cleansers, conditioning or treatment, and hair or scalp requiring shampooing or conditioning.

The present invention provides a specific method of increasing proline uptake in human dermal fibroblast cells by contacting the cells with a physiologically acceptable substrate that contains information energy.

Increased proline uptake is an indication of the collagen synthesis of these cells - - a desirable cosmetic benefit which is one route of improving skin condition. Fibroblast cells, which are located in the dermis, perform many functions, *i.e.*, synthesize collagen, elastin, glycoseaminoglycans (GAGS), to name a few. Proline is an amino acid which is an integral part of the collagen structure. By demonstrating an increase in the total amount of proline uptake, we demonstrate an increase in the total amount of collagen synthesized. Collagen and elastin are two proteins found in the dermis responsible for the firmness and elasticity of the skin. Young, healthy skin has an abundance of these two proteins. As the body ages, the process of synthesizing these proteins decreases. Therefore, the total amount of collagen/elastin diminishes in older, less healthy skin. Increasing the amount of collagen/elastin in the dermis by the present invention leads to improvement in skin condition.

The present invention further provides a specific method of producing the physiologically acceptable substrate that

contains information energy. The method is generally described in U.S. Patents 5,012,110 and 5,138,172 of K. E. Werner Kropp and comprises imparting information energy of desired frequencies to a substrate that has been placed in a specific configuration within a magnetic field, called a magnetic vector potential field. The apparatus for applying the information energy to the substrate may comprise

a) two opposite sets of magnets, each said set of magnets comprising a plurality of magnets arranged side by side, with alternating N and S poles, wherein the substrate is exposed to a magnetic vector potential field when the substrate is placed between the opposing sets of magnets; and

b) a means for applying information energy to the substrate when the substrate is located in the magnetic vector potential field.

The application of information energy to the substrate may be accomplished by exposing the substrate to the following Wekroma rods having the following properties:

1200.7	Antioxidants BHT N-acetyilcystine Beta Caratene
622	Cellulite
232	Revitalization Collagen Synthesis, Balancing Rods
7509	Neutralize Free Radicals
326	Inhibit Bacterial Growth
329	Inhibit Bacterial Growth
Fibro 1	Stimulate fibroblast cells
Fibro 2	Stimulate fibroblast cells

Preferably, the substrat is exposed to the above Wekroma Rods by the use of a Wekroma Bio-Transer device, wherein the substrate is at least once passed through such device. The substrate may be exposed to the rods individually or in combination.

The present invention additionally provides a method of improving skin condition comprising a) exposing a physiologically acceptable substrate to a magnetic vector potential field; and b) administering to the skin the exposed substrate. Thus, exposure of a substrate to a magnetic vector potential field, such as the sets of magnets described above without application of information energy is sufficient to obtain a treated substrate capable of improving skin condition. One preferable way of treating the substrate with a magnetic vector potential field is to pass the substrate at least once through the Wekroma Bio-Transer device, without the placement of any Wekroma Rods within the device.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 depicts the Bio-Transer device available from Wekroma-Vertrieb Schweiz.

Fig. 2 depicts graphically the increase in proline level in Human Dermal Fibroblast cells upon increasing the concentration of the Body Booster mineral water that was treated with the Wekroma Bio-Transer device.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The manner in which a substrate is exposed to information energy is generally described in U. S. patent 5,138,172 of K. E. Werner Kropp; U. S. Patent 5,012,110 of K. E. Werner Kropp; French patent application, Publication No. 2,634,381 of J. J.C. Morez, and WO 91,10450 of J. J.C. Morez. The substrate is generally in a gaseous, liquid, solid or liquid crystalline phase.

One arrangement for exposing aqueous solutions to information energy is by use of a Wekroma Bio-Transer device, purchased from Wekroma-Vertrieb Schweiz, Beat Lanz, 6313 Menzingen, Federal Republic of Germany. Rod No. 232 as supplied by Wekroma was placed in the Wekroma Bio-Transer device as shown in Fig. 1. Test tubes containing aqueous solutions were passed through the Bio-Transer device by way of a channel opening. The residence time the solution is in the Bio-Transer device does not appear to be critical, typically ranging from less than one second to a few seconds. The rate at which the test tubes pass through the Bio-Transer device is typically the speed at which they free fall. Both residence time and rate of pass through may be controlled by having the solution pump through the Bio-Transer device at a certain controlled velocity.

EXAMPLE 1

The following demonstrates how aqueous saline solution treated with the Wekroma Bio-Transer device can stimulate proline uptake by Human Dermal Fibroblast cells.

1. To 99.2 grams of sterile distilled water add 0.4 grams of Sodium Chloride and 0.4 grams of Magnesium Chloride. Stir at room temperature until the solids dissolve and a clear solution is obtained.

2. The solution obtained in Step 1 was split into 5 equal aliquots and stored in sterile test tubes.

3. Sample No. 1 was left untreated; to be used as a control to compare to the other treated samples.

4. Rod No. 232-1 (as supplied by Wekroma) was placed in the Wekroma Bio-Transer device as shown in the accompanying drawing Fig. 1.

5. One of the test tubes containing the sterile salt solution was then passed through the Bio-Transer as depicted in the accompanying drawing. This procedure was repeated two times. Then the sample was set aside.

6. Then Rod No. 232-1 was removed from the Bio-Transer and Rod No. 232-2 was placed in the Bio-Transer. Another of the test tubes containing the sterile salt solution was passed through the Bio-Transer as in Step No. 5.

7. Repeat the above procedure until the remaining test tubes were treated; (Sample No. 4) was treated with Rod No. 232-3 and Sample No. 5 was treated with Rod No. 232-4). Rods No. 232-1, 2, 3 and 4 are identical replicas of each other.

8. All samples were submitted for proline uptake testing. The results indicate that all samples showed increases over the media control. Wekroma treated salt solutions (Samples Nos. 2 and 5) showed statistically significant increases over

Sample No. 1 (salt solution, untreated by the Wekroma Bio-Transer device).

The protocol for the proline uptake testing is as follows. Two confluent 24-well plates were treated with the sample solutions. The untreated salt solution control was added neat in 1, 5, and 10% concentrations. Solutions of the same material was passed through Rod No. 232 and assayed at the same concentrations as the control. Each sample was assayed in triplicate. The samples were then labeled with 1 μCi/ml of ^{3}H Proline by adding 1 μl to each ml well. Plates were incubated over a five day period, in which time the treatment procedure was repeated. After treatment incubation was complete, the plates were assayed for total protein uptake. Each plate was washed with 1 ml of ice cold PBS, and then 1 ml of ice cold TCA for 10 minutes. TCA washes were repeated twice for five minutes each. Each plate was then washed with 1 ml of MeOH and allowed to dry. Protein was then solubilized in .3 M NaOH and gently shaken for .5 hours. Supernatant is collected and added to scintillant, and measured on the liquid scintillation counter.

EXAMPLE 2

The following demonstrates how a specific mineral water treated with the Wekroma Bio-Transer device can stimulate proline uptake by Human Dermal Fibroblast cells.

Body Booster mineral water having the composition listed in Table 1 was treated in a Wekroma Bio-Transer device using Wekroma Rod No. 232 as described in Example 1.

Three confluent 24-well plates were labelled with 1 μci/ml of ^3H Proline prior to the addition of the mineral water. Tests were conducted with the Body Booster mineral water that was treated with the Wekroma Bio-Transer device, using the untreated mineral water as a control.

Each sample was assayed in triplicate using .1, .5 and 1% concentrations. Plates were incubated over the weekend before being assayed for total protein. At this time each plate was washed with 1 ml of ice cold PBS, and then 1 ml of ice cold TCA for 10 minutes. TCA washes were repeated twice for five minutes each. Each plate was then washed with 1 ml of MeOH and allowed to dry. Protein was then solubilized in .3 M NaOH containing 1% SDS and gently shaken for .5 hours. Supernatant is collected and added to scintillant, and measured on the liquid scintillation counter.

An increase in protein count was observed for the Wekroma treated Body Booster mineral water. A dose dependent increase occurred in which the .1, .5, and 1% concentrations increased protein by 3, 17, and 27%, respectively. See Table 2 and Fig. 2. The results for the .5 and 1% doses were

statistically significant with p-values of .02 and .03, respectively.

EXAMPLE 3

The following demonstrates that Body Booster mineral water by itself increases proline uptake. However, treatment of this mineral water with the Wekroma Transer device using Rod No. 232 as outlined in Example 1 resulted in higher proline uptake compared to the untreated mineral water control. Treatment of this mineral water with the Wekroma Transer device using Rod No. 1200.7 did not increase proline uptake beyond the control.

Two confluent 24-well plates were treated with the following: various different treatments of Body Booster consisting of Wekroma Rods Nos. 232 and 1200.7. The Body Booster control was added neat in 1, 5, and 10% concentrations. The same material was passed through Rods Nos. 232 and 1200.7 and assayed at the same concentrations. Each sample was assayed in triplicate. The samples were then labeled with 1 μCi/ml of ^{3}H Proline by adding 1 μl to each ml well. Plates were incubated over a five day period, in which time the treatment procedure was repeated. After treatment incubation was complete, the plates were assayed for total protein uptake. Each plate was washed with 1 ml of ice cold PBS, and then 1 ml of ice cold TCA for 10 minutes. TCA washes were repeated twice for five minutes each. Each plate was then washed with 1 ml of MeOH and allowed to dry. Protein was then solubilized in .3 M NaOH and gently shaken for .5 hours. Supernatant is collected and added to

scintillant, and measured on the liquid scintillation counter.

Body Booster increased uptake 52% when treated with Rods 232, yielding a 12% increase from the untreated group, while 1200.7 treatment paralleled the untreated group. Student's t-test indicated that all the materials were statistically significant. See Table 3.

EXAMPLE 4

We repeated earlier experiments which showed that Body Booster mineral water increased proline incorporation. Body Booster mineral water without any information transferred to it, increased proline uptake by 44, 38, and 33% at 1, 5, and 10% concentrations. See Table 4. In this experiment, information transferred with Wekroma Rods No. 1200.7 displayed a statistically significant increase of 16% at a 10% dosage.

Two confluent 24-well plates were treated with Body Booster mineral water that received 10 passes with Wekroma Rods No. 1200.7. The Body Booster mineral water control was added neat in 1, 5, and 10% concentrations. The same material was passed through Rods No. 232 and assayed using the equivalent concentrations. TGF β (10ng/ml) was assayed as a positive control. Each sample was assayed in triplicate. The samples were then labeled with 1 μCi/ml of ^{3}H Proline by adding 1 μl to each 1 ml well. Plates were incubated over a five day period, in which time the treatment procedure was repeated. After treatment incubation was complete, the plates were assayed for total protein uptake.

Each plate was washed with 1 ml of ice cold TCA for 10 minutes. TCA washes were repeated twice for five minutes each. Each plate was then washed with 1 ml of MeOH and allowed to dry. Protein was then solubilized in .3 M NaOH and gently shaken for .5 hours. Supernatant was collected and added to scintillant, and measured on the liquid scintillation counter.

TGF β displayed increases of 63%, and 87% (P(.003). Body Booster mineral water increased uptake 44, 38, and 33% as a control at 1, 5, and 10% concentrations. Body Booster mineral water treated with Rods No. 1200.7 (antioxidant) displayed increases of 6 and 16% at 5 and 10% concentrations respectively, when compared to Body Booster mineral water controls. Student's t-test conveyed statistical significance for all materials, when values were compared to untreated controls. Statistical analysis, compared to Body Booster mineral water control, yielded values greater than .05 excluding the 10% concentration that had been treated with Rod No. 1200.7

Example 5

The following experiment showed that aqueous solutions of sodium chloride and magnesium chloride treated with Wekroma Rod 232 increased collagen production by Normal Human Dermal Fibroblasts cells ("NHDF") to a significant degree compared to the control aqueous solution containing the same concentration of salts but untreated with the Wekroma Rod 232. The ability of the treated aqueous solutions to

increase collagen production was retained upon storage of at least six months.

Five salt solutions of .4% NaCl and .4% $MgCl_2$ in deionized water were made. One solution (3249/1) was not treated with Wekroma Rod 232 and used as the control solution. The remaining four salt solutions (3249/2-3249/5) were treated with Wekroma Rod, 232-1, 232-2, 232-3, and 232-4 respectively. All of these Wekroma Rods are identical replicas of each other. All five salt solutions were assayed at three different doses (1, 5 and 10% in deionized water) for any increase in the production of collagen by NHDF cells.

All sample solutions showed increases, of varying degrees, over the media control (see % change column in Table 5). Wekroma treated salt solutions 3249/2 and 3249/5 showed statically significant increases, over 3249/1, in the amount of collagen released by NHDF cells in culture. 3249/1, the untreated control solution, showed increases in collagen production (over the media control).

The four salt solutions treated with the Wekroma Rod's 232 were sealed and stored under ambient conditions for six months and then reassayed for their ability to increase the production of collagen by NHDF cells. These "retained solutions" were also compared to stored solutions that were retreated with the Wekroma Rods 232 (labeled as "remake solutions").

The results of the assay of the control salt solution, retained solutions and remake solutions are shown in Table 6.

Collagen levels were not enhanced by the presence of 10% of the control salt solution ($MgCl_2$ and $NaCl_2$ in deionized H_2O). Media containing 10% remake solution treated with #232 - Rod 4 resulted in a 36% increase in absolute collagen level, and a 6% decrease in DNA, combining to yield an overall increase in Collagen/DNA of 43% over the control salt solution. Retain solution originally treated with #232 - Rod 4, when present at 10% concentration, yielded an increase of 14% in absolute collagen level, along with a 24% decrease in DNA, combining to yield an overall increase in Collagen/DNA of 50%. In contrast, Mimosa pudica, used as a positive control, increased absolute collagen level by 20%, and decreased DNA by 65%, which resulted in an overall increase in Collagen/DNA of 238%.

Of the sample solutions tested, the only ones to show substantial increases in collagen levels were the remake solution treated with #232 - Rod 4 and the retain solution treated with #232 - Rod 4. These samples yielded increases of 43 and 50% respectively (over the salt solution control). In this assay, the positive control, Mimosa pudica (@ 50 μg/ml), yielded an increase of 238% over the media control.

The following outlines the method used in the above two to determine collagen and DNA levels.

NHDF cells were seeded and grown to confluence in a 96 well plate prior to being treated with the Wekroma samples (n=3). Mimosa pudica (@ 50 μg/ml) was added as a positive control and media alone served as the negative control. The plate was incubated for 4 days at 37°C/5% CO_2 before the

supernatants were harvested, and stored at -70° in siliconized tubes until the ELISA was performed.

The collagen ELISA was performed as follows:

A 96 well enzyme immunoassay grade microliter plate is coated, overnight at 4°C, with an optimal amount of Human Type 1 collagen. In a separate microliter plate (low protein binding), equal volumes of primary antibody (Rabbit anti Human Type 1 Collagen) is mixed with either the collagen standards or the unknowns and allowed to react overnight at 4°C (Inhibition Step). The collagen standards or the collagen present in the unknowns will bind with the primary antibody, leaving some of the primary antibody unbound.

The collagen coated plate is then washed extensively with Phosphate Buffered Saline containing 0.05% Tween-20 (PBST), dried and blocked with PBS containing 3% Bovine Serum Albumin for 1.5 hours at 37°C. The blocking solution is then removed from the wells, the plate is dried and the contents of the wells containing the primary antibody/standard or unknown solution are transferred to the blocked, collagen coated plate. The plate is incubated for 30 minutes at room temperature, to allow whatever primary anti-body is left unbound to free collagen, to bind to the collagen coating the plate. After the 30 minute incubation, the solution is discarded. Discarded in the solution will be the primary antibody bound to free collagen (from the standards or unknowns). Any primary antibody that did not bind to collagen during the inhibition step will be free to bind to the collagen coating the wells. If there was a lot of

collagen present in the standard or unknown solution, most of the primary antibody will be bound up and not be available to bind to the collagen coating the wells.

The primary antibody bound to the collagen coating the well is detected by the addition of a goat anti-rabbit IgG-Alkaline Phosphatase conjugated antibody and incubating for 1.5 hours at room temperature followed by extensive washing with PBST. The alkaline phosphatase present in the wells is detected by the addition of p-Nitrophenyl Phosphate as a substrate and the optical densities are read at 405nM on a Molecular Devices microplate reader. A standard curve is constructed and the collagen levels of the unknowns are determined from this curve.

The DNA assay was performed as follows. DNA levels are determined by performing a freeze/thaw lysis of the cells in the presence of water and adding Hoechst 33258 (a dye that binds to DNA and becomes fluorescent). The plate is then read on the spectrophotometer and DNA levels are calculated from the standard curve.

Example 6

It is possible to produce a substrate treated only with a magnetic vector potential field without the application of any information energy. This can be accomplished by, for example, passing a solution through the Wekroma Bio-Transer device without the placement of any rods within the device. Such a treated substrate is capable of improving skin condition upon administration of the substrate to the skin.

TABLE 1

Composition Of Body Booster Mineral Water

Aluminum	1-10%	Molybdenum	0
Arsenic	0	Niobium	0
Antimony	0	Nickel	0.01-0.1%
Barium	0	Phosphorus	0
Beryllium	0.01-0.1%	Potassium	0
Boron	0.01-0.1%	Sodium	0.1-1.0%
Bismuth	0	Silicon	0.01-1.0%
Cadmium	0	Silver	0
Calcium	10-100%	Strontium	0.1-1.0%
Chromium	0	Tantalum	0
Cobalt	0	Tellurium	0
Copper	0.01-0.1%	Tin	0
Iron	0.01-0.1%	Titanium	0.01-0.1%
Lead	0	Tungsten	0
Lithium	0	Vanadium	0
Magnesium	1-10%	Zinc	<0.01%
Manganese	1-5%	Zirconium	0
Mercury	0		

TABLE 2

MATERIAL		average DPM	% change	P-value
untreated Fe H2O	control	29666.67		
	0.10%	30266	2.020225	
	0.50%	28933.33	-2.47191	
	1%	31395	5.825843	
treated Fe H2O	control	26077.33		
	0.10%	26974.33	3.439769	0.49
	0.50%	30508.67	16.99305	0.02
	1%	33053.33	26.7512	0.03

TABLE 3

		dpm	avg. dpm	% change	P-value	% change from BB control
BB-control	1%	105215 110134 113281	109543.3	34.19933	0.001	
	5%	95021 117246 110378	107548.3	31.75529	0.02	
	10%	95786 99194 99801	98260.33	20.37675	0.001	
BB-232	1%	111191 125587 134227	123668.3	51.50358	0.003	12.89444
	5%	122170 110580 120287	117679	44.16617	0.001	9.419641
	10%	95146 104946 100019	100037	22.55331	0.004	1.808122
BB-12007	1%	104023 112237 111857	109372.3	34.08511	0.002	-0.1561
	5%	109353 108673 121246	113090.7	38.64361	0.003	5.153342
	10%	106709 100710 82910	96776.33	18.64304	0.12	-1.51027

TABLE 4

		dpm	avg. dpm	% change	P-value	dpm minu avg.contro	P-value among BB
control		36335 30925 30414	32558				
TGF B		51288 58159 49600	53015.67	62.83453	0.003		
BB-C	1%	48752 44941 47082	46925	44.1274	0.003	16194 12383 14524	
	5%	49367 41801 43797	44988.33	38.17904	0.01	16809 9243 11239	
	10%	39432 50542 39763	43245.67	32.82655	0.06	6874 17984 7205	
BB-232	1%	41992 46412 48420	45608	40.08231	0.01	9434 13854 15862	0.58
	5%	45920 44642 50013	46858.33	43.92264	0.005	13362 12084 17455	0.54
	10%	44162 43276 44348	43928.67	34.92434	0.004	11604 10718 11790	0.86
control		28578 25524 33584	29228.67				
TGF B		51548 57206 55401	54718.33	87.20776	0.001		
BB-1200.7	1%	44480 42907 41449	42945.33	46.92881	0.005	15251.33 13678.33 12220.33	0.67
	5%	45415 52041 45126	47527.33	62.6052	0.005	16186.33 22812.33 15897.33	0.14
	10%	49850 49635 50472	50052.33	71.24398	0.001	20621.33 20606.33 21243.33	0.05

TABLE 5

PRODUCTION OF COLLAGEN BY NHDF CELLS
EXPOSED TO SAMPLE SOLUTIONS

Sample	pg/ml+/-S.D.	% Change	p value
3249/1 Control salt solution 10%	2.5+/-0.02	4.2	
5%	2.7+/-0.03	12.5	
1%	2.6+/-0.01	8.3	
3249/2 10%	3.0+/-0.06	25	0.02
5%	2.8+/-0.07	17	0.1
1%	2.4+/-0.12	0	0.8
3249/3 10%	2.6+/-0.02	8.3	0.1
5%	2.7+/-0.06	12.5	0.2
1%	2.8+/-0.11	17	0.2
3249/4 10%	2.7+/-0.09	12.5	0.1
5%	2.7+/-0.09	12.5	0.8
3249/5 10%	3.5+/-0.04	46	0.002
5%	3.0+/-0.05	25	0.02
TBFβ	3.0+/-0.02	25	
Media Control	2.4+/-0.01		

TABLE 6

PRODUCTION OF COLLAGEN BY NHDF CELLS
EXPOSED TO RETAIN AND REMAKE SOLUTIONS

Sample	Coll (µg/ml)	% Change	DNA (µg/ml)	% Change	Coll/DNA	% Change
Media	0.15+/-0.001		6.2+/-0.3		0.024	
M. pudica	0.18+/-0.008	+20	2.2+/-0.1	-65	0.081	238
Control salt soln.	0.14+/-0.006		5.0+/-0.11		0.028	
#232-Rod 4 remake	0.19+/-0.015	+36	4.7+/-0.08	-6	0.040	+43
#232-Rod 4 retain	0.16+/-0.023	+14	3.8+/-0.09	-24	0.042	+50
#232-Rod 1 retain	0.15+/-0.012	+7	4.6+/-0.07	-8	0.033	+18
#232-Rod 2 retain	0.14+/-0.018	0	6.5+/-0.02	+30	0.021	-25
#232-Rod 3 retain	0.15+/-0.015	+7	5.2+/-0.07	+4	0.029	+3
#232-Rod 3 remake	0.16+/-0.01	+14	4.6+/-0.12	-8	0.035	+25
BQ Rod BQ-DAT-C4	0.14+/-0.002	0	4.4+/-0.06	-12	0.032	+14

It should be apparent to one of ordinary skill that other embodiments not specifically disclosed nonetheless fall within the scope and spirit of the present invention. Hence, the descriptions herein should not be taken as limiting the invention in any way, except as stated in the following claims.

All references cited above are hereby expressly incorporated by reference.

We claim:

1. A method of improving skin condition comprising a) exposing a physiologically acceptable substrate to a magnetic vector potential field; and b) administering to the skin the exposed substrate.

2. A method of improving skin condition comprising a) exposing a physiologically acceptable substrate to a magnetic vector potential field and directly applying information energy to the substrate while the substrate is exposed to the magnetic vector potential field to produce a substrate that contains information energy; and b) administering to the skin the substrate that contains information energy.

3. A method of improving skin condition by administering to the skin a physiologically acceptable substrate, wherein such substrate is produced by exposing a physiologically acceptable substrate to a magnetic vector potential field.

4. A method of improving skin condition by administering to the skin a physiologically acceptable substrate that contains information energy, wherein such substrate is produced by exposing a physiologically acceptable substrate to a magnetic vector potential field and directly applying information energy to the substrate

while the substrate is exposed to the magnetic vector potential field.

5. The method of claims 1, 2, 3 or 4 wherein the improvement is increased collagen content in the skin.

6. The method of claims 1, 2, 3 or 4 wherein the substrate is in the gaseous, liquid, solid or liquid crystalline phase.

7. The method of claim 6 wherein the substrate is in the liquid or liquid crystalline phase.

8. The method of claim 7 wherein the substrate is in the liquid phase.

9. The method of claim 7 wherein the liquid phase comprises water.

10. The method of claim 9 wherein the liquid phase comprises sodium chloride and magnesium chloride.

11. The method of claim 9 wherein the liquid phase comprises iron ions and calcium ions.

12. The method of claims 1, 2, 3 or 4 wherein the magnetic vector potential field is produced by two opposite sets of magnets, each said set of magnets comprising a

plurality of magnets arranged side by side, with alternating N and S poles, wherein the substrate is exposed to a magnetic vector potential field when the substrate is placed between the opposing sets of magnets.

13. The method of claim 12 wherein the substrate is at least once passed through a Wekroma Bio-Transer device.

14. The method of claims 2 or 4 where at least one Wekroma Rod selected from the group consisting of 1200.7, 622, 232, 7509, 326, 329, Fibro1, and Fibro2 is used to directly apply information energy to the substrate.

15. The method of claim 14 where at least one Wekroma Rod No. 232 is used to directly apply information energy to the substrate.

16. The method of claim 15 wherein the substrate is at least once passed through a Wekroma Bio-Transer device that produces the magnetic vector potential field and that contains at least one Wekroma Rod No. 232.

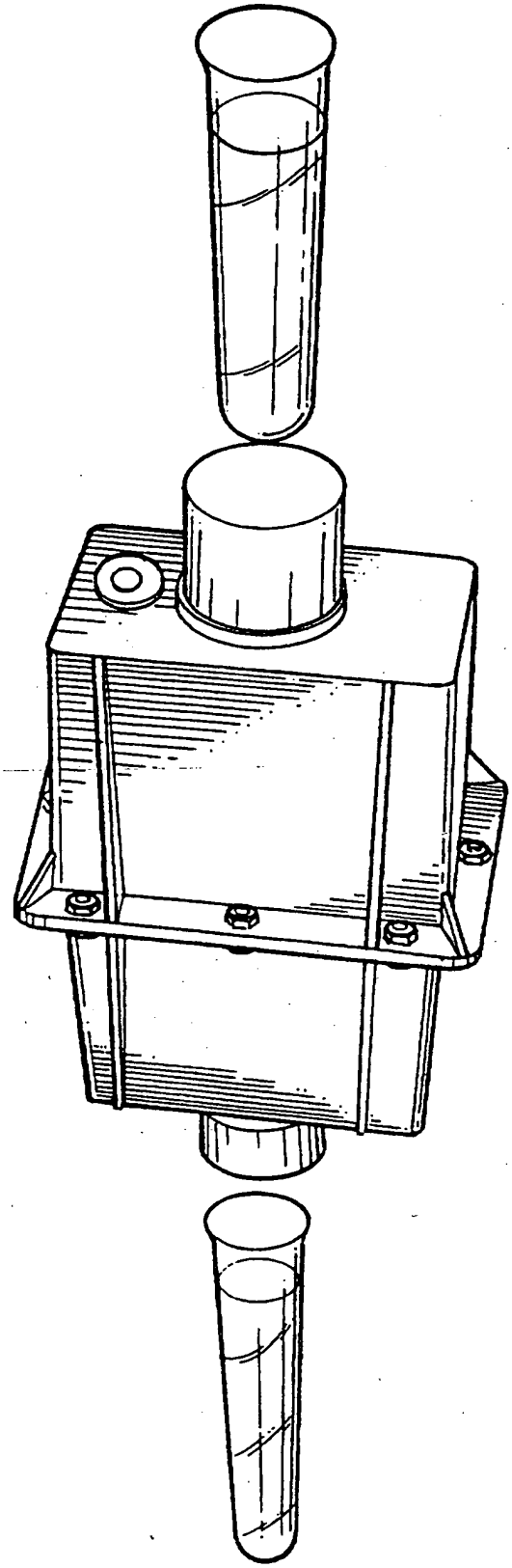

FIG. 1

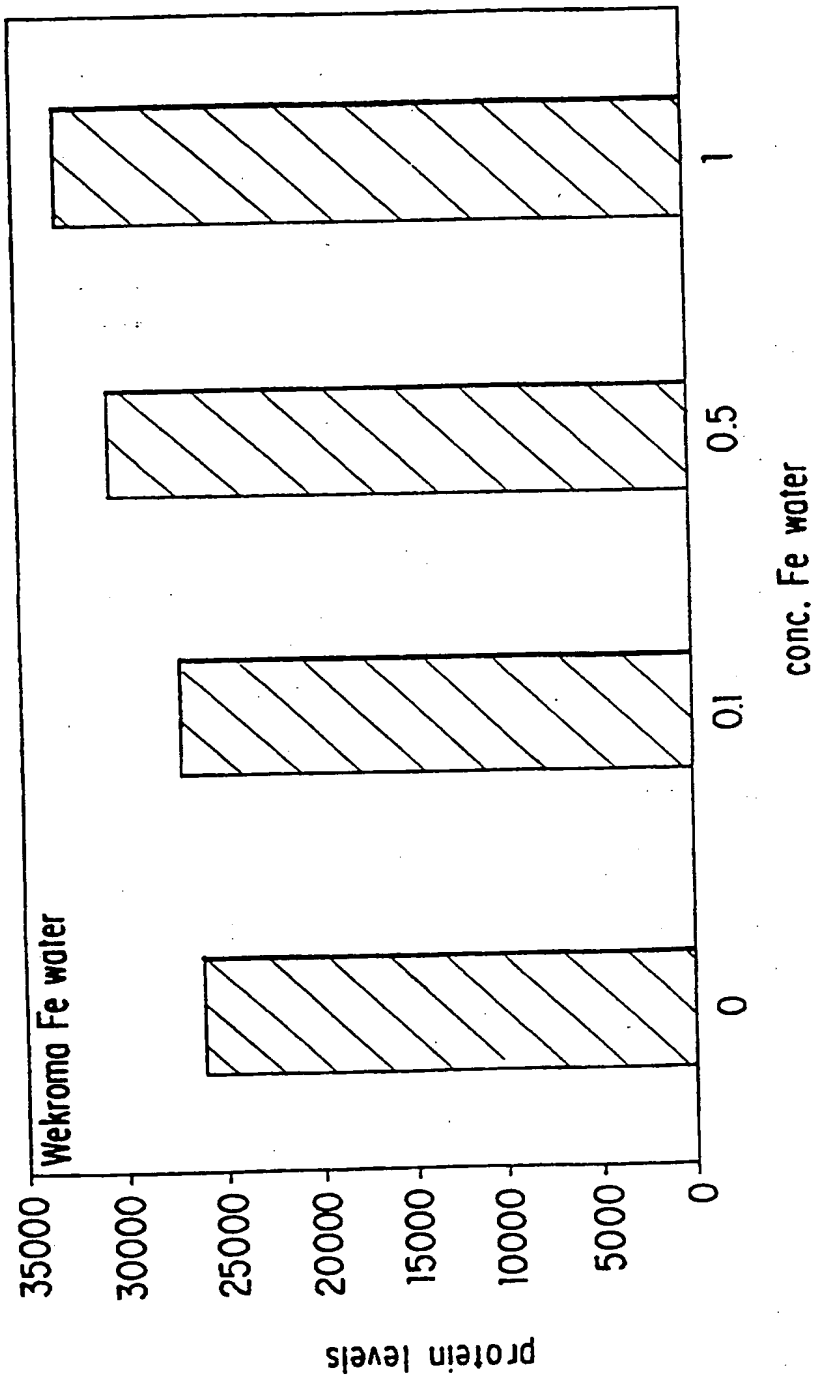
Wekroma Fe water
protein levels
35000
30000
25000
20000
15000
10000
5000
0
0
0.1
0.5
1
conc. Fe water

FIG.2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/07936

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : H01J 37/00
US CL : 250/492.1
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 250/492.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,012,110 A (Kropp) 30 April 1991 (30/04/91) see figs. 1-7 and entire document.	1-9, 12
Y		10-11,13-16
X	US 5,138,172 A (Kropp) 11 August 1992 (11/08/92) see figs. 1-14 and entire document.	1-9, 12
Y		10-11,13-16
Y	US 5,247,179 A (Tachibana) 21 September 1993 (21/09/93), see figs. 1-16 and entire document.	1-16

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search	Date of mailing of the international search report
05 AUGUST 1997	21 AUG 1997
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer KIET T. NGUYEN Telephone No. (703) 308-4855

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